Pro-MicroScan

Microscope Digital Camera

BASIC USER MANUAL
Version 3.0

USB 2.0 CAMERA

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELETRICAL SHOCK.DO NOT
REMOVE COVER(OR BACK).NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED OPLENIC SERVICE PERSONNEL.

The lightning flash with an arrowhead symbol within an equilateral triangle is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING!

TO AVOID THE RISK OF FIRE OR ELECTRICAL SHOCK. NEVER EXPOSE THIS PRODUCT TO WATER OR OPERATE IN A HIGH HUMIDITY ENVIRONMENT.

Keep camera away from the following:

- High temperatures and excessive humidity
- Direct sunlight or other heat sources
- Dust
- Extreme vibration

If the camera lens becomes dirty, first try blowing dust particles from it. Next use a lint free cloth or proper lens cleaning cloth to wipe the lens gently. Only use approved lens cleaning fluids. Never touch the lens with your fingers! Do not allow the camera to come into contact with water or any other liquid. If water or a foreign substance should get in the camera, unplug the camera immediately and do not attempt to plug in until after a long period of time to allow for drying. This does not necessarily mean it will work again! Do not open the camera case or attempt your own repairs. Internal components may create risk of electrical shock or fire. There are no user serviceable components inside. Clean the outside of the camera by wiping with a clean, dry cloth. Never use harsh or abrasive cleaners or organic solvents on the camera or any of its parts. If you notice smoke or a strange smell coming from the camera, immediately unplug the camera and consult an authorized dealer.

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Welcome

Thank you for buying OPLENIC ***Pro-MicroScan*** high resolution USB2.0 camera. We suggest you spend a few minutes carefully reading this user manual before installing and using your camera.
Please keep this user manual in a safe place for future reference.

Warnings and Precautions

Precautions when using your *Pro-MicroScan*

⚠ Keep camera away from the following:

- High temperatures and excessive humidity
- Direct sunlight or other heat sources
- Dust
- Extreme vibration

If the imaging sensor lens becomes dirty, first try blowing dust particles from it. Next use a lint free cloth or proper lens cleaning cloth to wipe the lens gently. Only use approved lens cleaning fluids. **Never touch the lens with your fingers!**

Do not allow the camera to come into contact with water or any other liquid. If water or a foreign substance should get in the camera, unplug the camera immediately and do not attempt to plug in until after a long period of time to allow for drying. This does not necessarily mean it will work again! Do not open the camera case or attempt your own repairs. Internal components may create risk of electrical shock or fire. There are no user serviceable components inside.

Clean the outside of the camera by wiping with a clean, dry cloth. Never use harsh or abrasive cleaners or organic solvents on the camera or any of its parts.

If you notice smoke or a strange smell coming from the camera, immediately unplug the camera and consult an authorized dealer.

System Requirements

PC running either Windows ® 2000 or XP (Professional-SP4) -XP

(Professional-SP2) are installed when shipping, No working if specifications up to reach of above after shipment ⚠

- DirectX 9.0 or later installed
- 2.0 GHz minimum processor(Recommend dual core 2.8GHz or more)
- USB 2.0 Port
- CD-ROM drive
- 512 MB RAM(Recommend 1GB or more)
- 200 MB Free HDD

Performance is dependent on the PC's graphics card.

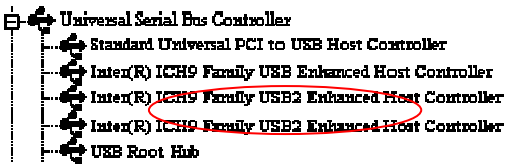
USB 2.0 is only supported on Windows ® 2000, Me, XP, 2003, Vista and 2008. Do not try to use any other Microsoft ® operating system. will NOT work on a Mac Computer.

Windows 2000 must have Service Pack 4 (or later) installed and XP Pro must have Service Pack 2 (or later) installed in order for the camera to function correctly. To check if you have USB2.0 installed on your computer goes to:

Start > Settings > Control Panel > System… or 'right-click' on “My Computer” and select “properties” from the context menu...

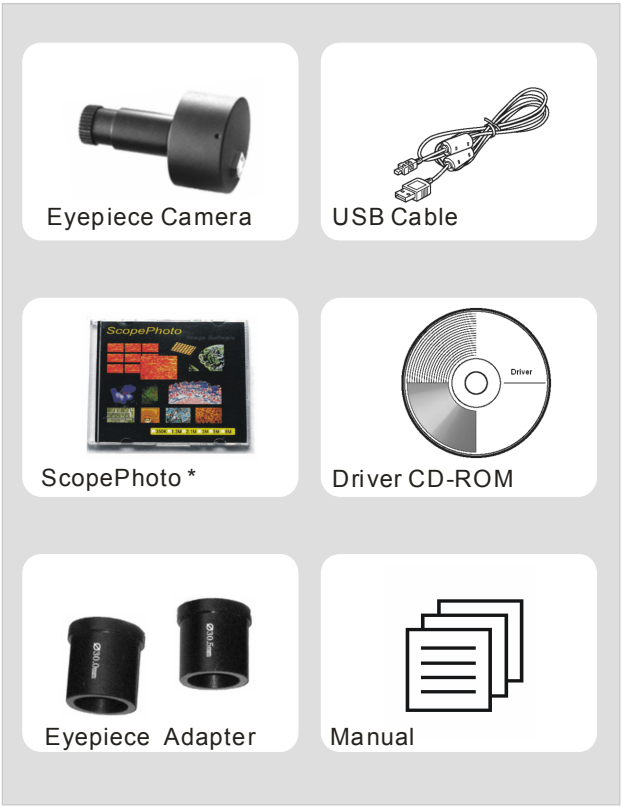
Click on the “Hardware” tab and then onto the button “Device Manager”;

Within Universal Serial Bus controllers (USB controllers) you will see a list of USB devices installed on your machine. In this example the red arrow is indicating the USB2.0 device. USB2.0 controllers may be labeled as USB2.0 controllers, however they may also be labeled as “Enhanced” or “Standard Enhanced” controllers. The so-called “Standard” or “Standard Universal” controllers are for the slower USB1.x system.


Universal Serial Bus Controller
Standard Universal PCI to USB Host Controller
Intel(R) ICH9 Family USB Enhanced Host Controller
Intel(R) ICH9 Family USB2 Enhanced Host Controller
Intel(R) ICH9 Family USB2 Enhanced Host Controller
USB Root Hub

Package Contents

If you find any contents missing or damaged, contact the place of purchase



ScopePhoto software is available for option at extra cost. Not in standard package.

Installing the Driver and Software

1. Insert CD into CD-ROM drive

2. Select “Install camera driver”

-Continue with installation prompts. (If using Vista, please plug the digital eyepiece into the USB slot before installing camera driver and skip step 3). (If unidentified publisher/ Windows Logo Testing appear, select continue anyway ⚠

3. Install image software (After installation the image software icon will created on the desktop)

To Connect Camera

Connect the USB cable into a free USB slot on the computer (Requires **USB 2.0** interface). ⚠

"New Hardware Found" displays at the bottom right of your PC screen. The camera is recognized.

-The found new hardware wizard would start, Select "Install the software automatically"

-Finish (If unidentified publisher/ Windows Logo Testing appear, select continue anyway)

NOTE:

1.Plug the USB connector to board USB2.0 port directly on the back of the PC is recommend,

2.Do NOT use anything to extend the USB cable.

Using the camera

1. Start the MiniSee or ScopePhoto software

2. Start video

MiniSee--Click on the camera name below "Video" button.

ScopePhoto-Click on the camera name below "Live capture" on the bottom of start page.

(If you do not see the start page, you may find it from "Help-->Show Start Page")

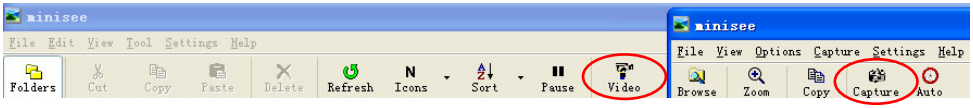
3. Connect the camera to the microscope and turn on the light.

(Please make sure your light system has the option of a BLUE LIGHT FILTER. For the CCD to view properly, you would need light color temperatures around 5600K-6000K.)

4. Setting the white balance

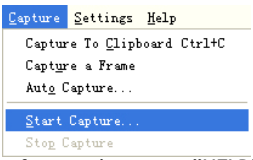
-Empty the stage so it would be viewing an empty field. Then set the white balance by going to: Setup Video source property auto white balance

5. Capture the image Press to capture image



MiniSee tool bar

ScopePhoto tool bar

6. Capture the Video 

More about using the software please see "HELP" of the software.

Trouble Shooting

WARNING:

Please do not attempt to open the camera case. There are no user serviceable parts inside.

USB Device Conflicts

When there are a number of USB devices installed at the same time, unexpected errors can arise. The cause can be insufficient available USB bandwidth, or possibly too much combined current being drawn by USB devices. To test for these conditions you should uninstall and unplug as many other USB devices as possible. This should help to rule out the above, and eliminate possible conflicts with other cameras. If you are using an extended USB cable, please make sure the cable's bandwidth is good enough to support High-Speed USB 2.0 standard. Once the camera is not working well, please remove it.

Image Preview/Capture Problems

If you have installed driver and you get a black screen with DirectShow Capture, Check the setting of PC display mode, make sure that's on "32Bit true color". If you can preview the image but can not capture it(Camera icon is gray) ,Installing the DirectX9.0 or later version.

Frame rate slow & color noise on the screen

Video Mode: use smaller size video mode will get faster frame rate video

Integration time / luminous intensity setting: longer Integration time and brighter illumination will make the frame rate faster.

If you have any other problems, please visit our website to get help information

http://www.oplenic.com/support.asp

http://www.oplenic.com/faq.asp

Technical Data Sheet

Pro-MicroScan : SkopKam digital camera FOR microscope

Model	MDC200	MDC320	MDC560	MDC140BW
Part Number	#5870	#5910	#5920	#5930
Sensor Size	1/3"	1/3"	1/2"	2/3"
Pixel Size	3.2μmX3.2μm	N/A	N/A	6.5μmX6.5μm
Sensitivity (v/lux-sec @550nm)	0.45 in condition 1*	0.4 in condition 1*	0.45 in condition 1*	0.05 in condition 1*
Max Resolution (Hardware)	1600X1200 2M pixels	2048X1536 3.2M pixels	2720X2048 5.6M pixels	1360X1024 1.4M pixels
Frame Rate (Depend on the PC)	<20frames/sec@ 1600X1200	<15frames/sec@ 2048X1536	10frames/sec@ 2720X2048	12frames/sec@ 1360X1024
Video Mode	1600x1200 1024x768 800 x 600 640 x 480	2048X1536 1024x768	2720X2048 1360x1024	1360X1024 680 x 512(2x2BIN) 340 x 256(4x4BIN)
Dynamic Range	62dB	75dB	75dB	80dB
Wave Length(nm)	400-650nm (IR-Cut added)			
Exposure	ERS (Electronic Rolling Snap)			
White Balance	Automatic / Advanced Manual			
Auto-exposure	Automatic / Advanced Manual			
Image Output	USB2.0, 480Mb/s			
Power Supply	USB2.0 DC 5V / 1.5 A			
Programmable Control	Image size, exposure time, brightness, gain, Gamma Correction, color,, contrast, Saturation,			
Working Temperature	-30°C ~ 70°C			
USB Cable	USB cable, length 2.5m			
Accessories Included	2 adaptors (Φ23.2 to Φ30, Φ23.2 to Φ30.50, one each) TS-M1 stage micrometer available for option at extra cost			
Output data	RGB24, Direct Show and Twain interface			
Software	Driver: support Direct Show and Twain Image software: MiniSee Advanced Image-processing software: ScopePhoto available for option at extra cost			
Operating System	Windows 2000 / Me / XP(SP2/SP3) / 2003 / Vista / 2008 32Bit system			

*Standard image Condition I

Use a pattern box (luminance: 706cd/m2, color temperature of 3200K halogen source) as a subject. (Pattern for evaluation is not applicable.) Use a testing standard lens with CM500S (t = 1.0mm) as an IR cut filter and image at F5.6. The luminous intensity to the sensor receiving surface at this point is defined as the standard sensitivity testing luminous intensity.

Warranty

OPLENIC Three Year Limited Warranty

OPLENIC warrants its products to be free from the date of purchase this product for three year. OPLENIC will repair or replace such product or part thereof which, upon inspection by OPLENIC, is found to be defective in materials or workmanship. As a condition to the obligation of OPLENIC to repair or replace such product, the product must be returned to OPLENIC together with proof-of-purchase satisfactory to OPLENIC.

All returns must be accompanied by a written statement setting forth the name, address and daytime telephone number of the owner, together with a brief description of any claimed defects. Parts or product for which replacement is made shall become the property of OPLENIC.

The customer shall be responsible for all costs of transportation and insurance, both to and from the factory of OPLENIC, and shall be required to prepay such costs.

OPLENIC shall use reasonable effort to repair or replace any accessory covered by this warranty within thirty days of receipt. In the event repair or replacement shall require more than thirty days, OPLENIC shall notify the customer accordingly. OPLENIC reserves the right to replace any product which has been discontinued from its product line with a new product of comparable value and function.

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